

chain nodes :

7 8 15 16 17 19

ring nodes :

1 2 3 4 5 6 9 10 11 12 13 14

chain bonds :

5-17 6-7 7-8 8-11 10-15 14-16

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 9-10 9-14 10-11 11-12 12-13 13-14

exact/norm bonds :

6-7 7-8 8-11 9-10 9-14 10-11 10-15 11-12 12-13 13-14 14-16

exact bonds :

5-17

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6

isolated ring systems :

containing 1 : 9 :

G1:PO3H2,SO3H

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:Atom 10:Atom  
11:Atom 12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS 17:CLASS 19:CLASS

=> d his

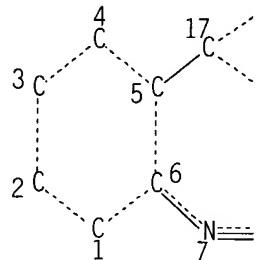
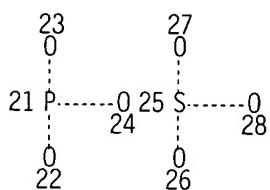
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FILE 'REGISTRY' ENTERED AT 09:46:46 ON 16 MAR 2003

L1 STRUCTURE UPLOADED  
 L2 0 S L1  
 L3 30 S L1 FULL

=> d que 13 stat

L1 STR

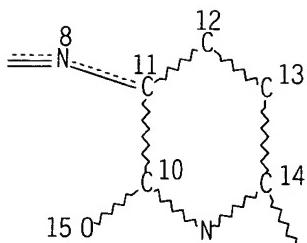


Page 1-A

G1 18

$\text{^0}^{20}$

$\text{^0}_{19}$



Page 1-B

9  $\text{^0}_{16}$

Page 2-B  
 VAR G1=21/25

## NODE ATTRIBUTES:

NSPEC IS R AT 1  
NSPEC IS R AT 2  
NSPEC IS R AT 3  
NSPEC IS R AT 4  
NSPEC IS R AT 5  
NSPEC IS R AT 6  
NSPEC IS C AT 7  
NSPEC IS C AT 8  
NSPEC IS R AT 9  
NSPEC IS R AT 10  
NSPEC IS R AT 11  
NSPEC IS R AT 12  
NSPEC IS R AT 13  
NSPEC IS R AT 14  
NSPEC IS C AT 15  
NSPEC IS C AT 16  
NSPEC IS C AT 17  
NSPEC IS C AT 18  
NSPEC IS C AT 19  
NSPEC IS C AT 20

DEFAULT MLEVEL IS ATOM

MLEVEL IS CLASS AT 7 8 15 16 17 19 20 21 22 23 24 25 26 27 28

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 28

## STEREO ATTRIBUTES: NONE

L3 30 SEA FILE=REGISTRY SSS FUL L1

100.0% PROCESSED 104 ITERATIONS

SEARCH TIME: 00.00.01 30 ANSWERS

=> fil cap1

FILE 'CPLUS' ENTERED AT 09:47:58 ON 16 MAR 2003

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FILE COVERS 1907 - 16 Mar 2003 VOL 138 ISS 12  
FILE LAST UPDATED: 14 Mar 2003 (20030314/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

'.FIONA' IS DEFAULT FORMAT FOR 'CPLUS' FILE

=> s 13

L4 10 L3

=> d 1-10 ibib iabs hitstr

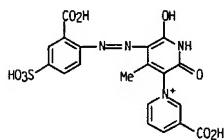
L4 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 2002:292873 CAPLUS  
 DOCUMENT NUMBER: 137:249116  
 TITLE: Dyes and compositions for ink jet printing  
 AUTHOR(S): Anon.  
 CORPORATE SOURCE: UK  
 SOURCE: IP.com Journal (2001), 1(8), 23 (No. IPCOM000005022D)  
 .31 Aug 2001  
 CODEN: IJPOBX; ISSN: 1533-0001  
 PUBLISHER: IP.com, Inc.  
 DOCUMENT TYPE: Journal; Patent  
 LANGUAGE: English  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IP 5022D		20010831	IP 2001-5022D	20010831

## PRIORITY APPLN. INFO.:

ABSTRACT:  
 Compsns. for use in ink jet printing comprise one or more yellow azopyridone dyes, dispersants, solvents, surfactant stabilizers, etc. The inks show improvements in shade, lightfastness, and stability towards ozone.

IT 455300-26-2  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (Ink compn. based on yellow azopyridone dyes for ink jet printing)  
 RN 455300-26-2 CAPLUS  
 CN 1,3'-Bipyridinium, 3-carboxy-5'-[(2-carboxy-4-sulfonylphenyl)azo]-1',2'-dihydro-6'-hydroxy-4'-methyl-2'-oxo- (9CI) (CA INDEX NAME)



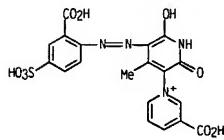
L4 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 2002:286257 CAPLUS  
 DOCUMENT NUMBER: 137:249116  
 TITLE: Dyes and compositions for ink jet printing  
 AUTHOR(S): Anon.  
 CORPORATE SOURCE: UK  
 SOURCE: IP.com Journal (2001), 1(4), 53 (No. IPCOM0000046720)  
 .30 Apr 2001  
 CODEN: IJPOBX; ISSN: 1533-0001  
 PUBLISHER: IP.com, Inc.  
 DOCUMENT TYPE: Journal; Patent  
 LANGUAGE: English  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IP 4672D		20010430	IP 2001-4672D	20010430

## PRIORITY APPLN. INFO.:

ABSTRACT:  
 Compsns. for use in ink jet printing comprise Direct Black 195 and a yellow azopyridone dye, dispersants, solvents, surfactant stabilizers, etc. The inks show improvements in shade, lightfastness, and stability towards ozone.

IT 455300-26-2  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (Ink compn. based on yellow azopyridone and Direct Black 195 dyes for ink jet printing)  
 RN 455300-26-2 CAPLUS  
 CN 1,3'-Bipyridinium, 3-carboxy-5'-[(2-carboxy-4-sulfonylphenyl)azo]-1',2'-dihydro-6'-hydroxy-4'-methyl-2'-oxo- (9CI) (CA INDEX NAME)



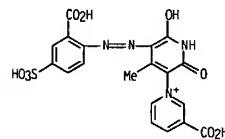
L4 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 2002:287104 CAPLUS  
 DOCUMENT NUMBER: 137:218461  
 TITLE: Jet-printing ink compositions  
 AUTHOR(S): Anon.  
 CORPORATE SOURCE: UK  
 SOURCE: IP.com Journal (2002), 2(2), 103 (No. IPCOM000006588D), 28 Feb 2002  
 CODEN: IJPOBX; ISSN: 1533-0001  
 PUBLISHER: IP.com, Inc.  
 DOCUMENT TYPE: Journal; Patent  
 LANGUAGE: English  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IP 6588D		20020228	IP 2002-6588D	20020228

## PRIORITY APPLN. INFO.:

ABSTRACT:  
 Ink-jet inks of good pH stability may be prepd. from compns. which comprise one or more yellow dyes and one or more buffers. Examples of suitable yellow dyes are water-sol. azo and bis azo dyes such as C.I. Direct Yellow 86, C.I. Direct Yellow 132, C.I. Direct Yellow 142, C.I. Direct Yellow 173, and C.I. Acid Yellow 23. Examples of buffers include substituted amino compds., esp. aliph. amines, morpholine derivs. and piperazine derivs.. particularly those which have a sulfonic acid, carboxylic acid or one or more hydroxyl groups.

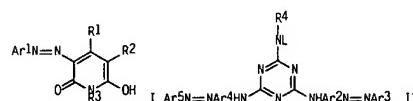
IT 455300-26-2  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (yellow dye; storage-stable adq. jet-printing ink compns. contg.)  
 RN 455300-26-2 CAPLUS  
 CN 1,3'-Bipyridinium, 3-carboxy-5'-[(2-carboxy-4-sulfonylphenyl)azo]-1',2'-dihydro-6'-hydroxy-4'-methyl-2'-oxo- (9CI) (CA INDEX NAME)



L4 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 2001:676661 CAPLUS  
 DOCUMENT NUMBER: 135:243734  
 TITLE: Azo dye compositions and jet-printing inks containing them  
 INVENTOR(S): Ewing, Paul Nicholas; Holbrook, Mark; Shawcross, Andrew Paul  
 PATENT ASSIGNEE(S): Avecia Limited, UK  
 SOURCE: PCT Int. Appl., 29 pp.  
 CODEN: PIXX02  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001066651	A1	W 2001-GB6609	20010215	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MM, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
GB 2374080	A1	GB 2002-16969	20010215	GB 2000-5163 A 20000304 WO 2001-GB609 W 20010215

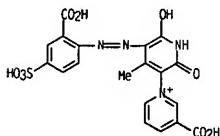
OTHER SOURCE(S): MARPAT 135:243734  
 GRAPHIC IMAGE:



ABSTRACT:  
 Compsns. contg. a monoazo dye (I; Ar1 = arom. group; R1 = H, optionally substituted alkyl, alkenyl, alkynyl, pyridinium, aryl; R2 = H, optionally substituted alkyl, alkenyl, alkynyl, pyridinium, aryl, CO2H, CN, amino, carbamoyl; R3 = H, optionally substituted alkyl, alkenyl, alkynyl, aryl) and a diazo dye (II; A2-A5 = arom. group; L = H and R4 may form a heterocyclic ring with the N; R4 = H, optionally substituted alkyl, alkenyl, alkynyl, aryl) or their salts show better storage, processing, and print properties (when use in yellow jet-printing inks) than either I or II alone. Five examples of dye

L4 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)  
synthesis were given.

IT 359873-35-1  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(yellow dye; prodn. of azo dyes and their mixts. for yellow jet-printing inks)  
RN 359873-35-1 CAPLUS  
CN 1,3'-Bipyrindinium, 3-carboxy-5'-[(2-carboxy-4-sulfophenyl)azo]-1',2'-dihydro-6'-hydroxy-4'-methyl-2'-oxo-, chloride (9CI) (CA INDEX NAME)

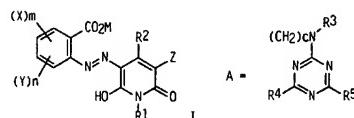


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REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 2001-228976 CAPLUS  
DOCUMENT NUMBER: 134:267727  
TITLE: Yellow pyridone azo dyes, inks containing them and their use in printing  
INVENTOR(S): Tallant, Neil Anthony; Millard, Christine  
PATENT ASSIGNEE(S): Avercia Limited, UK  
SOURCE: PCT Int. Appl., 42 pp.  
CODEN: PIXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

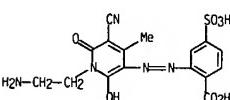
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001021714	A2	20010329	WO 2000-GB3550	20000918
WO 2001021714	A3	20011011		
		W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, ND, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VU, YU, ZA, ZW, AH, AZ, BY, KG, KZ, MD, RU, TJ, TM, RW, GH, GM, KE, LS, MW, HZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CH, GA, GN, GW, ML, MR, NE, SN, TD, TG		
AU 2000074321	A5	20010424	AU 2000-74321	20000918
EP 1218449	A2	20020703	EP 2000-962673	20000918
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL			
	PRIORITY APPLN. INFO.: GB 1999-22136 A 19990920			
	OTHER SOURCE(S): MARPAT 134:267727			
	GRAPHIC IMAGE:			



L4 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)

ABSTRACT:  
The dyes have the structure I [M = H, cation; R1, R3 = H, (un)substituted Cl-8 org. group, A: R2 = (un)substituted Cl-8 org. group; R4, R5, X, Y, Z = H, substituent; c = 2-6; m, n = 0-2], contg. .gtoreq.1 SO3M or PO3H2 group, with certain specified exclusions. These compds. and their solns. are useful as the colorants to prep. color filters for liq.-crystal displays. For example, cyclcondensation of EtO2CH2CN, H2NC(H2)CH2OCH2CH2OH, and MeCOCH2CO2Me gave a hydroxypyridone, which was coupled diazotized 2-amino-4-sulfobenzoinic acid to produce I (M = H, R1 = CH2CH2OCH2CH2OH, R2 = Me, X = SO3H, Z = CN, m = 1, n = 0).

IT 331732-74-2  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(prep. of yellow pyridone azo dyes)  
RN 331732-74-2 CAPLUS  
CN Benzoic acid, 2-[[1-(2-aminoethyl)-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

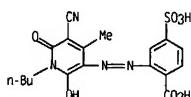


IT 331732-54-8P 331732-55-9P 331732-56-0P  
331732-57-1P 331732-58-2P 331732-59-3P  
331732-60-6P 331732-61-7P 331732-62-8P  
331732-63-9P 331732-64-0P 331732-65-1P  
331732-66-2P 331732-67-3P 331732-68-4P  
331732-69-5P 331732-70-6P 331732-71-9P  
331732-72-0P 331732-73-1P 331732-75-3P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(yellow pyridone azo dyes and their solns.)

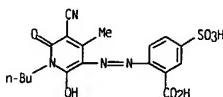
RN 331732-54-8 CAPLUS  
CN Benzoic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-[2-(2-hydroxyethoxy)ethyl]-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

L4 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)

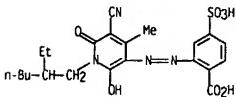
HO-CH2-CH2-O-CH2-CH2-C6H4-C6H4-CO2H  
RN 331732-55-9 CAPLUS  
CN Benzoic acid, 2-[(1-butyl)-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)



n-Bu  
RN 331732-56-0 CAPLUS  
CN Benzoic acid, 2-[(1-butyl)-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

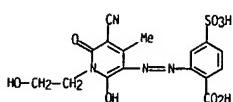


rn-Bu-CH2-CH2-C6H4-C6H4-CO2H  
RN 331732-57-1 CAPLUS  
CN Benzoic acid, 2-[[5-cyano-1-(2-ethylhexyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

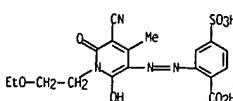


rn-Bu-CH2-CH2-C6H4-C6H4-CO2H  
RN 331732-58-2 CAPLUS  
CN Benzoic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-hydroxyethyl)-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

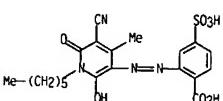
L4 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)



RN 331732-59-3 CAPLUS  
CN Benzoic acid, 2-[[5-cyano-1-(2-ethoxyethyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

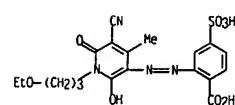


RN 331732-60-6 CAPLUS  
CN Benzoic acid, 2-[[5-cyano-1-hexyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

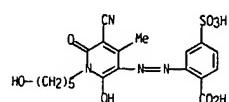


RN 331732-61-7 CAPLUS  
CN Benzoic acid, 2-[[5-cyano-1-(3-ethoxypropyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

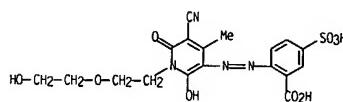
L4 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)



RN 331732-62-8 CAPLUS  
CN Benzoic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-(5-hydroxypentyl)-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

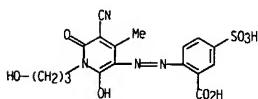


RN 331732-63-9 CAPLUS  
CN Benzoic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-[2-(2-hydroxyethoxyethyl)-4-methyl-6-oxo-3-pyridinyl]azo]-5-sulfo- (9CI) (CA INDEX NAME)

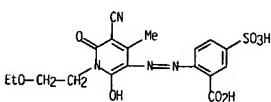


RN 331732-64-0 CAPLUS  
CN Benzoic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-(3-hydroxypropyl)-4-methyl-6-oxo-3-pyridinyl]azo]-5-sulfo- (9CI) (CA INDEX NAME)

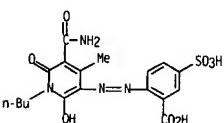
L4 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)



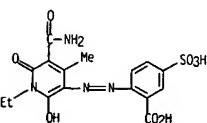
RN 331732-65-1 CAPLUS  
CN Benzoic acid, 2-[[5-cyano-1-(2-ethoxyethyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-5-sulfo- (9CI) (CA INDEX NAME)



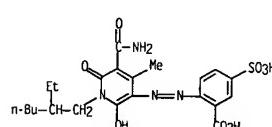
RN 331732-66-2 CAPLUS  
CN Benzoic acid, 2-[[5-(aminocarbonyl)-1-butyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-5-sulfo- (9CI) (CA INDEX NAME)



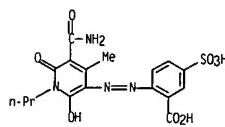
RN 331732-67-3 CAPLUS  
CN Benzoic acid, 2-[[5-(aminocarbonyl)-1-ethyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-5-sulfo- (9CI) (CA INDEX NAME)



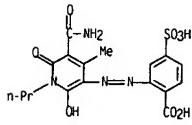
RN 331732-68-4 CAPLUS

L4 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)  
CN Benzoic acid, 2-[[5-(aminocarbonyl)-1-(2-ethylhexyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-5-sulfo- (9CI) (CA INDEX NAME)

RN 331732-69-5 CAPLUS  
CN Benzoic acid, 2-[[5-(aminocarbonyl)-1-(2-ethylhexyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-5-sulfo- (9CI) (CA INDEX NAME)

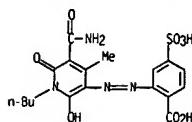


RN 331732-70-8 CAPLUS  
CN Benzoic acid, 2-[[5-(aminocarbonyl)-1-propyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

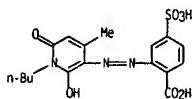


RN 331732-71-9 CAPLUS  
CN Benzoic acid, 2-[[5-(aminocarbonyl)-1-butyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

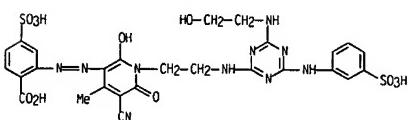
L4 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)



RN 331732-72-0 CAPLUS  
 CN Benzoic acid, 2-[(1-butyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-4-sulfo- (9CI) (CA INDEX NAME)

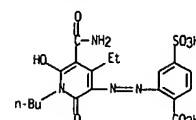


RN 331732-73-1 CAPLUS  
 CN Benzoic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-[2-[[4-[(2-hydroxyethyl)amino]-6-((3-sulfophenyl)amino)-1,3,5-triazin-2-yl]amino]ethyl]-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)



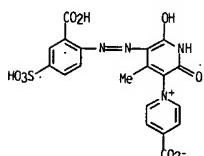
RN 331732-75-3 CAPLUS  
 CN Benzoic acid, 2-[[5-(aminocarbonyl)-1-butyl-4-ethyl-1,2-dihydro-6-hydroxy-2-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)

L4 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)



L4 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)  
 an ink-jet printing process using the inks, substrates printed with the inks, and ink-jet printer cartridges contg. the inks. Thus, ClCH<sub>2</sub>CONH<sub>2</sub> was condensed with nicotinic acid to give 1-(carbamoylmethyl)-3-carboxypyridinium chloride, which was cyclized with MeCOCH<sub>2</sub>CO<sub>2</sub>Et to give the substituted hydroxypyridone, which was coupled with diazotized 2,5-H<sub>2</sub>N(HO)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CO<sub>2</sub>H to produce the desired I. When this dye was formulated into an ink-jet ink and applied to paper, it produced a bright yellow print with good chroma and lightfastness.

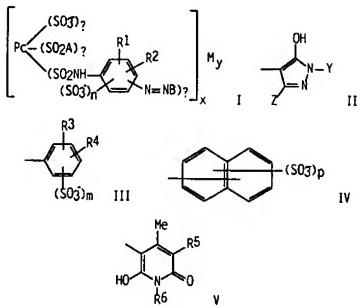
IT 240128-09-0P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material)  
 use: PREP (Preparation); USES (Uses)  
 (yellow; prepn. of monoazo dyes for use in ink-jet inks)  
 RN 240128-09-0 CAPLUS  
 CN 1,3'-Bipyridinium, 4-carboxy-5'-[(2-carboxy-4-sulfophenyl)azo]-1',2'-dihydro-6'-hydroxy-4'-methyl-2'-oxo-, inner salt, sodium salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

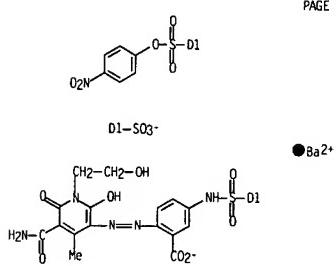
L4 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1991:418637 CAPLUS  
DOCUMENT NUMBER: 115:18637  
TITLE: Color filter  
INVENTOR(S): Yamamura, Shigeo; Hirayama, Yutaka  
PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
Coden: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01303407	A2	19891207	JP 1988-132841	19880601
PRIORITY APPLN. INFO.:			JP 1988-132841	19880601
GRAPHIC IMAGE:				



**ABSTRACT:** In the title filter, the filter layer contains a phthalocyanine of the structure I [Pc = a phthalocyanine moiety; A = O- or NH2, OC6H4NO2, OC6H4CO2-, OC6H3(NO2)2, OC6H3(NO2)(SO3-), OC6H3(OH)(CO2-); R1, R2 = H, Me, CO2H, NHCOMe].

L4 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)

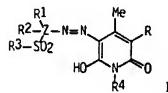


14 ANSWER 8 OF 10 CARLIS COPYRIGHT 2002 ACI

L4 ANSWER B OF 10 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1986:G28488 CAPLUS  
DOCUMENT NUMBER: 105:228488  
TITLE: Water-soluble pyridone monoazo dyes  
INVENTOR(S): Segal, Marcos  
PATENT ASSIGNEE(S): Hoechst A.-G. . Fed. Rep. Ger.  
SOURCE: Ger. Offen., 41 pp.  
CODEN: GWYBX  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3427188	A1	19860130	DE 1984-3427188	19840724
EP 169457	A1	19860129	EP 1985-108702	19850712
EP 169457	B1	19860302		
R: CH. DE. FR. GB. IT. LT				
IN 164505	A	19890401	IN 1985-CAS31	19850717
US 4659807	A	19870421	US 1985-757687	19850722
JP 61037848	A2	19860222	JP 1985-161335	19850723
JP 04043114	B4	19902015		
BR 8503494	A	19860415	BR 1985-3494	19850723
IN 169688	A	19910831	IN 1988-CA999	19881202
IN 169337	A	19910928	IN 1989-CA683	19890821
PRIORITY APPLN. INFO.:			DE 1984-3427188	19840724
			IN 1985-CAS31	19850717
			US 1988-206072	19880613
			IN 1988-CA999	19881202
			WO 1989-US2118	19890515

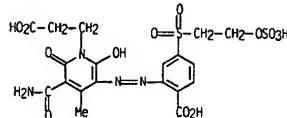
OTHER SOURCE(S): CASREACT 105:228488  
GRAPHIC IMAGE:



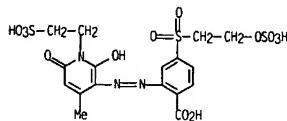
**ABSTRACT:** Water-sol. I ( $R = H, CONH_2$ ;  $R_1 = H, C_1-4$  alkyl,  $C_1-4$  alkoxy, OH, NO<sub>2</sub>, halogen;  $R = H, Cl-C_1-4$  alkyl,  $C_1-4$  alkoxy, halogen, CO<sub>2</sub>H, SO<sub>3</sub>H;  $R_3 =$  vinyl or precursor;  $R_4 = C_1-4$  alkyl substituted with OSO<sub>3</sub>H, OPO<sub>3</sub>H<sub>2</sub>, CO<sub>2</sub>H, or SO<sub>3</sub>H;  $Z =$  benzene, naphthalene, benzannilide, or diphenylamine residue) are useful for dyeing or printing HO- and/or amide group-contg. fabrics. Thus, 4-( $\beta$ -cata-

L4 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)  
 L4 sulfatoethylsulfonyl)aniline was diazotized and coupled with  
 6-hydroxy-4-methyl-1-(2-sulfoethyl)-2-pyridone, forming I (R = R1 = R2 = H, R3  
 = (CH2)2SO3H, R4 = (CH2)2SO3H, Z = 1,4-phenylene).  $\lambda_{\text{max}}(\text{H}_2\text{O})$  411 nm,  
 which dyed cotton a dark greenish-yellow shade with good lightfastness.

IT 105512-93-4P 105513-09-5P  
 RL: PREP (Preparation)  
 (manuf. of, as yellow dye for cotton)  
 RN 105512-93-4 CAPLUS  
 CN 1(2H)-Pyridinepropanoic acid, 3-(aminocarbonyl)-5-[[2-carboxy-5-[(2-  
 sulfooxyethyl)sulfonyl]phenyl]azo]-6-hydroxy-4-methyl-2-oxo- (9CI) (CA  
 INDEX NAME)



RN 105513-09-5 CAPLUS  
 CN Benzoic acid, 2-[[1,6-dihydro-2-hydroxy-4-methyl-6-oxo-1-(2-sulfoethyl)-3-  
 pyridinyl]azo]-4-[[2-(sulfooxyethyl)sulfonyl]- (9CI) (CA INDEX NAME)

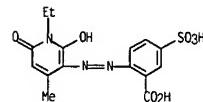


L4 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 1975:74444 CAPLUS  
 DOCUMENT NUMBER: 82:74444  
 TITLE: Azo compounds  
 INVENTOR(S): Oesterlein, Fritz; Heger, Gert; Seitz, Karl  
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G.  
 SOURCE: Patentschrift (Switz.), 12 pp.  
 CODEN: SWXXAS  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 550232	A	19740614	CH 1970-13144	19700515

PRIORITY APPLN. INFO.: CH 1970-13144 19700515  
 GRAPHIC IMAGE: For diagram(s), see printed CA Issue.  
 ABSTRACT:  
 Azo dyes [I, R = sulfonyl deriv., [(chlorotriazinyl)amino]sulfonyl deriv., [(anthraquinonyl)amino]chlorotriazinyl]amino]sulfonyl deriv., R1 = Et, H2NC(H2C)2 were prep'd. and used to dye cotton and polyamide fibers fast yellow to green shades. Thus, 1,3-diamino-4,6-benzenedisulfonic acid [137-50-8] was treated with cyanuric chloride, and the (dichlorotriazinyl)amino deriv., was diazotized and coupled with 1-ethyl-6-hydroxy-4-methyl-2-pyridone [31643-63-7] to give the (dichlorotriazinyl)amino azo deriv. which was treated with 3-H2NC6H4SO3H [121-47-1] to give azo dye (I) [34372-38-8], pure greenish yellow on cotton. The other 1 were similarly prep'd.

IT 34372-37-7P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (prep'n. of)  
 RN 34372-37-7 CAPLUS  
 CN Benzoic acid, 2-[(1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-  
 pyridinyl)azo]-5-sulfo- (9CI) (CA INDEX NAME)



L4 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 1972:87154 CAPLUS  
 DOCUMENT NUMBER: 76:87154  
 TITLE: Hydroxypyridone azo dyes  
 INVENTOR(S): Oesterlein, Fritz; Heger, Gert; Seitz, Karl  
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G.  
 SOURCE: Ger. Offen. 59 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

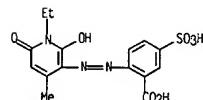
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2123061	A	19711125	DE 1971-2123061	19710510
FR 2091415	A5	19720114	FR 1971-16855	19710510
CA 965779	A1	19750408	CA 1971-112546	19710510
BE 767179	A1	19711116	BE 1971-103440	19710514
NL 7106678	A	19711117	NL 1971-6678	19710514
BR 7102920	A0	19730503	BR 1971-2920	19710514
ES 391225	A1	19740501	ES 1971-391225	19710514
GB 1359171	A	19740710	GB 1971-15012	19710514
CS 163250	P	19750829	CS 1971-3546	19710514

PRIORITY APPLN. INFO.: CH 1970-7316 19700515  
 CH 1970-11494 19700730  
 CH 1971-5399 19710414

ABSTRACT:  
 Nine fiber-reactive azo dyes (I, Q = H, substituted chloro-s-triazinylamino; X = H, OH, CO2H, SO3H; Z = H, substituted chloro-s-triazinylamino) and azo dye II [34372-37-7] were prep'd. and gave fast greenish yellow or green shades on wool or cellulosic fibers. Co or Cr complexes of compds. with an o,o'-dihydroxy or o-carboxy o'-hydroxy azo group were also prep'd. For example, 1,3-(H2N)2C6H2(SO3H)-4,6 was condensed with cyanuric chloride at 0-5 deg.. diazotized, coupled with 1-ethyl-6-hydroxy-4-methyl-2(1H)-pyridone, and condensed with 3-H2NC6H4SO3H at 40-5 deg. to give a fiber-reactive azo dye (III) [34372-38-8], greenish yellow on cotton.

IT 34372-37-7P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (prep'n. of)  
 RN 34372-37-7 CAPLUS  
 CN Benzoic acid, 2-[(1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-  
 pyridinyl)azo]-5-sulfo- (9CI) (CA INDEX NAME)

L4 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2003 ACS (Continued)



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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	48.28	197.04
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-6.51	-6.51

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 09:52:06 ON 16 MAR 2003